

WHAT IS CLAIMED IS:

1. A torque measuring device for a rotating body, comprising:

5 a rotary section composed of a first flange to be joined to a driving shaft powered, a second flange to be joined to a driven shaft loaded, and a hollow cylinder having the first and second flanges formed respectively on both edges thereof;

10 a plurality of light emitting elements provided at an outer circumference of the rotary section and functioning to emit light according to an output from torque detectors provided at an inner circumference of the hollow cylinder thereby generating an optical signal;

15 a light receiving fiber to receive the optical signal from the light emitting elements;

a plurality of optical-electrical signal converters provided so as to face both end surfaces of the light receiving fiber, and functioning to convert the optical signal into an electrical signal; and

20 a malfunction detector to detect malfunction of the light receiving fiber according to the electrical signal outputted from the optical-electrical signal converters.

2. A torque measuring device according to Claim 1, wherein the malfunction detector compares a direct current
25 value converted from an RMS value of the electrical signal from the optical-electrical signal converters with a predetermined reference value.

3. A torque measuring device according to Claim 1,
wherein the malfunction detector compares, in a sequential
manner, a direct current value converted from an RMS value
of the electrical signal from the optical-electrical
5 signal converters with a plurality of predetermined
reference values differing from one another.

4. A torque measuring device according to Claim 1,
wherein the light receiving fiber receives the optical
signal from the light emitting elements thorough a
10 transparent plate and has its both end portions bent at a
right angle.

5. A torque measuring device according to Claim 1,
wherein the malfunction detector is connected to at least
one of a warning light, warning buzzer and voice-warning
15 device.